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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/986,622  
Filing Date: November 09, 2001  
Appellant(s): ROBA ET AL.

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Cortney S, Alexander  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 2/17/2009 appealing from the Office action mailed 15 August 2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

2002/0029591	DICKINSON	3-2002
4,988,374	HARDING	1-1991
5,160,359	STRACKENBROCK	11-1992
5,284,499	HARVEY	2-1994
4,547,644	BAIR	10-1985
4,030,901	KAISER	6-1977

JP 08091862 to KAZUYA 04-1996 (and the Derwent translation supplied by Appellant 11/09/2001)

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 61-69 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In a nutshell: it is unclear whether "path" is delimited by structure.

The 4<sup>th</sup> to last line of claim 61 refers to an "angled path". This phrase, interpreted in light of the specification, makes the claims confusing as to what is meant.

The relevant discussion of the path occurs in the specification at page 31, lines 7- 19; Appellant substantially agrees with this the/a relevant discussion as per the **Summary of the Claimed Subject Matter**, (bottom of page 8 of the Brief on Appeal). Specifically, at line 10 (of page 31 of the Specification), it refers to 152 as the "upward-angled annular path 152" and at line 12-13 it states "flow of condition gas 152". Thus "152" is used to describe both the path and the flow. This reasonably suggests the path is the same thing as the flow. However a path and a flow are generally different things.

Lines 10-11 also states the path 152 is "defined by upper surface 111 of distribution ring 107 and distributor casing top 103." However figures 4 and 5 show that the paths 152 curl upwards with no structure delimiting the curling portion of the path. In other words, only part of 152 is defined, once the gas reaches the inner portion, the path could depend on conditions. For example if there is no preform (figure 4) the gas would take one path, if there was a thin preform (e.g. 50 mm, specification, page 16, line 28) , the gas would take another path, and if there was a thick preform (e.g. 120 mm, page 16, line 27) , the gas would take a different path. Connecting rod 35 (figure 1) would also affect gas flow. For example, if the gap between the opening is very small, then a buffer (last two lines, claim 61) could be made. But if one were to use a

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very thin rod 35 so that there is a large gap at the top, then one could not reasonably create a pressure at the top of the furnace as indicated.

One would be confused as to what the claims require when one looks at the entire specification for at least the following reasons:

- 1) The paths 152 seem to be a flow of gas ("flow of condition gas 152", figures 4 and 5), however moving gas is generally not structure - and yet claim 61 requires the distributor body has the paths.
- 2) 111, 107 and 103 at best only define an upper and lower limit of a *part* of the paths shown in the drawings. One cannot reasonable ascertain whether the claimed "path" can be an unbounded path that gas can flow, or whether they are limited to paths that are bounded/defined by structure.

### ***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 51-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson 2002/0029591 (or Harvey 5284499) in view of Kazuya JP 08091862 (as per Applicant's translation thereof), Strackenbrock 5160359, Harding 4988374 and Bair 4547644 and optionally in view of and Kaiser 4030901.

It is noted that Appellant does not dispute that the combination would have been obvious, rather Appellant's position is that the combination is not within the scope of the claims. Since Appellant does not dispute Examiner's finding that it would have been obvious to combine the references in the manner set forth in the rejection, it is requested that Board find that it would have been obvious to one of ordinary skill to combine the references as set forth below:

Dickinson (at figure 1) and Harvey (at figure 2, col. 4, lines 60-68 and col. 5, lines 4-10) disclose a furnace body having an upper end and a lower end and comprising at least a susceptor, an induction coil and an insulating material disposed between said susceptor and said induction coil. However the bottom portions and distributor bodies of Dickinson and Harvey are not of the specific type require by the claims. They also clearly show the muffle as claimed.

Kazuya teaches that using the tapered shape structure (that appears to be the same or nearly the same as Applicant's bottom chimney) decreases fluctuations in the outer diameter of the preform. It would have been obvious to use the Kazuya teaching to improve the Dickinson or Harvey apparatus, for the advantages that Kazuya teaches. See previous rejections.

Bair is cited to reinforce Kazuya – See col. 7, lines 4-6 which teaches that a conical shaped extension also will reduce air drafts.

As to the a distributor body having a substantially annular distribution chamber (See Harding's feature 14), a distribution ring (see the ring on which Harding's 14 rests), and an outlet in fluid communication with an interior of the muffle( see Harding's features 13 and 8a), the distributor body configured to receive conditioning gas (see feature 15 of Harding) substantially tangentially with respect to the substantially annular distribution chamber, the distribution ring being adapted to uniformly introduce and forcedly direct a first portion of the conditioning gas into the muffle in a downward direction towards said furnace body and to direct a second portion of the conditioning



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gas to an upper portion of the substantially annular distribution chamber to create a buffer of conditioning gas having a pressure higher than a pressure outside the drawing furnace. These functional limitations related to the flow of gas are inherently capable of being met, depending upon the operating conditions being used.

Harding teaches various advantages for using the distributor (cols. 1-2) and most notably "far better utilization" (col. 1, lines 54-55). It would have been obvious to use the Harding distributor to far better utilize the Harvey or Dickenson apparatus. It would have been obvious to provide inlets to permit tangential introduction of gas as taught by Strackenbrock for even distribution of gas as previously indicated.

Claim 52: See figure 2 of Strackenbrock. One would immediately infer that the conduit that feeds the gas would be disposed along the centerline of the inlet 24. and thus tangentially to the chamber.

From MPEP 2144.01 Implicit Disclosure:

"[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

See also, *In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir 1985).

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Claim 53 requires "fins" in the outlet. Examiner's dictionary reflects that fins are generally "projecting ribs" - or "external" or "appendage". The dictionary also reports "something resembling a fin". Examiner could find nothing that suggests that applicant intends a narrow or specialized meaning for the term. Nor is there an art-recognized meaning for the term. Examiner sees nothing which indicates that applicant intended "fin" to exclude structure such as the structure which defines Harding's path. In other words: Applicant's drawings show large rectangular shaped channels, whereas Harding has small channels (13) of unspecified shape. However size and shape typically are obvious matters of design choice.

**From MPEP 2144.04****B. Changes in Shape**

In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) (The court held that the configuration of the claimed disposable plastic nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.).

**From MPEP 2144.04****A. Changes in Size/Proportion**

In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.).

In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

Examiner can find no evidence that the size or shape of the channels impart any criticality. Nor does Examiner find anything which reasonably suggests that applicant's use of the term "fins" is intended to impart any size restriction whatsoever to any feature of the apparatus, nor impart any shape restriction whatsoever to any feature of the apparatus. Rather since the functionality is substantially identical (both structures serve to direct gas flow from an annular chamber to a fiber preform in a downward direction along plural channels) the claims are deemed to be met.

Alternatively, see the prior Office actions which set forth the treatment of vanes as admitted prior art (Official Notice).

Claim 54: As per the 7/7/2005 Office action (page 12), it is admitted prior art that it is well known to use porous media to evenly distribute air pressure. It would have been obvious to use a porous media to more evenly distribute the gas to all ports.

Claims 55-60 parallel previous claims 40-45 respectively. They claim no new limitation beyond what was previously examined and found to be obvious. Please refer to the file history as to why the specific limitations would have been obvious. Applicant offers no argument which sets forth any patentable limitation in these claims.

#### Claim 61

Dickinson (at figure 1) and Harvey (at figure 2, col. 4, lines 60-68 and col. 5, lines 4-10) disclose the **furnace body** having an upper end and a lower end and comprising

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at least a susceptor, an induction coil and an insulating material disposed between said susceptor and said induction coil.

The claimed **muffle** is disclosed for example at col. 5, lines 4-10 of Harvey and [0036] of Dickinson.

The claimed **bottom portion**: Dickinson and Harvey clearly show bottom portions that are connected to lower end of the furnace. However the decreasing cross-sectional area is not disclosed. Kazuya teaches that using the tapered shape structure (that appears to be the same or nearly the same as Applicant's bottom chimney) decreases fluctuations in the outer diameter of the preform. It would have been obvious to use the Kazuya teaching to improve the Dickinson or Harvey apparatus, for the advantages that Kazuya teaches. This aspect is also discussed in previous rejections. Bair is cited to reinforce Kazuya – See col. 7, lines 4-6 which teaches that a conical shaped extension also will reduce air drafts.

The claimed **distributor body**: Whereas Dickinson and Harvey each clearly have a distributor body, neither is of the type claimed.

As to the a distributor body having a **substantially annular distribution chamber** (See Harding's feature 14), a **distribution ring** (see the ring on which Harding's 14 rests), and an **outlet in fluid communication with an interior of the muffle**( see Harding's features 13 and 8a), and the distributor body **configured to**

**receive conditioning gas** (see feature 15 of Harding) **substantially tangentially with respect to the substantially annular distribution chamber.**

Harding teaches various advantages for using the distributor with **at least one downwardly angled channel** (feature 13) and most notably “far better utilization” (col. 1, lines 54-55). It would have been obvious to use the Harding distributor to far better utilize the Harvey or Dickenson apparatus. It would have been obvious to provide inlets to permit tangential introduction of gas as taught by Strackenbrock for even distribution of gas as previously indicated.

As to the **“at least one upwardly angled path”** (as interpreted in light of the specification); as pointed out in the rejection under 35 USC 112, the disclosure shows a path in empty space - there is no structure which limits 152 (or at most only a portion of 152 is limited by structure). Since applicant's path is based on flow of gas - i.e. it relies on how the structure is used - it is not structure per se. Any empty space inherently has paths - because gas can flow in any direction. To look at it another way: wind can flow in any direction - it has any path desired. Gas that flows through 8A will inherently flow towards an area with lower pressure – that is - upwardly.

Claims 62-69 parallel claims 52-59 and are met for the same reasons.

**(10) Response to Argument**

35 USC 112 -2nd paragraph rejection

It is argued that claim 61 is not indefinite because the language "distributor body including...at least one upwardly angle path" indicates that the path is part of the distributor body, and that such is confirmed by the specification. These arguments are not all that relevant, because they only focus on particular parts of the specification - and do not take into account the entire specification. Most particular the arguments do not address the main reasons for the rejection: that the specification refers to feature "152" as a "flow" (as well as a path), and that the drawings indicate that 152 has portions which are not defined by structure.

It is argued (brief, page 12, heading "2") that claim 61 does not require the path to be annular, and that the figures are not required to depict an embodiment in which the path is annular. To reduce the issues, this rationale is no longer being maintained by Examiner.

Regarding Examiner's finding that the present drawings show that structure only limits part of the path, Appellant argues that the specification does not depict the sides of the path because of the cross-section view. This is not seem to address Examiner's finding that Appellant's structure define at best only a part of the paths 152. That is, given that Appellant shows an embodiment with paths are partially unbounded, it is unclear whether claim encompasses a scope where paths are completely unbounded.

Appellant argues that since the specification states that the gas flows through the path, the specification indicates that the path is defined by structure and that the upwardly-angled path does not refer simply to a flow of gas. This is not all that relevant because the entire disclosure (including the drawings) should be considered when interpreting what is meant by the claims. The drawings show that the path(s) 152 has a significant portion which is not defined by structure; it curves upward. Ostensibly, the path is not independent of how the apparatus is being used. For example at low flow rate, the flow could be laminar, but at a high rate, non-laminar.

### **103 rejection.**

Appellant's arguments focus on Harding's distributor body not reading on the claimed distributor body.

It is argued that Examiner does not articulate any evidence supporting the assertion that Harding inherently discloses the distribution ring being adapted to direct a portion of the condition gas to an upper portion of the distribution chamber to create a buffer of condition gas as required by claim 51. This is not all that relevant. Examiner set forth reasoning with rational underpinning which supports the conclusion that

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Harding meets the broad functional language of claim 51. (e.g. starting at the bottom of page 10 of the final rejection). Reproduced here:

...it is clearly evident to one skilled in the art. One knows one can cause any gas to move in any direction desired by applying either kinetic energy to the gas in the desired direction – such as blowing out a candle. Or by applying potential energy to the gas - that is creating a pressure gradient across the direction in which one desires gas to blow – like blowing up a balloon, or even deflating a balloon. It is exactly the same way that applicant “forcedly directs” the gas. More concretely: one can place a vacuum above the furnace to cause gas to go up. Or one can place a pressurizing device at the bottom of the furnace. Or one can pulse gas into 15, and seal the bottom which will cause gas to flow down and then up.

It is noted that Applicant’s claims do not require any source of gas to cause the gas to flow, rather one must connect a source of gas to 29 for the actual function to occur. Since applicant’s invention can have additional structure for functioning, the prior art can be met by adding additional features to create the gas flow. This is NOT to be interpreted as an indication that such additional structures are inherent or would have been obvious. Rather that applicant has recited very broad functional limitations that does not exclude any possible ways of causing gas to flow down (however briefly) and some other gas to flow upwardly (however briefly).

As the court stated in *In re Schreiber*:

A patent applicant is free to recite features of an apparatus either structurally or functionally. See *In re Swinehart*, 58 C.C.P.A. 1027, 439 F.2d 210, 212, 169 USPQ 226, 228 (CCPA 1971) (“[T]here is nothing intrinsically wrong with [defining something by what it does rather than what it is] in drafting patent claims.”). Yet, choosing to define an element functionally, i.e., by what it does, carries with it a risk. As our predecessor court stated in *Swinehart*, 439 F.2d at 213, 169 USPQ at 228:

where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the



applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.

128 F.3d 1473, 1478 (Fed. Cir. 1997).

It is noted that the functional limitations do not set forth when these functions must occur - they do not even require the flows are capable when a preform is in place.

The fact that applicant is able to cause gas to flow in both up direction and down directions, by taking the action of providing a pressurized gas source to the claimed furnace - suggests that claimed functionality can be created by applying a pressure differential across any free path in any furnace preform – and thus is an inherent functionality of any optical fiber preform furnace with a free path.

Examiner can find no rationale or evidence in the record that the prior art furnaces do not inherently meet the functional characteristic limitations.

This is NOT to be taken as a suggestion that amending the claims to recite what structure there actually is, rather than what it does would define patentable subject matter.

It is further argued that Examiner points to nothing indicating that Harding's downwardly angled channels can be used to direct gas upwards. Examiner disagrees. Examiner points out that one of ordinary skill is capable of making gas flow in any direction – by selective application of pressurized gas. Or to put it another way: Appellant's invention will direct gas downwardly and upwardly as claimed only when a certain condition is met: when a pressurized gas is applied to 29. Otherwise, appellant's invention will not be capable of directing gas as claimed.

It is argued that Examiner ignores the claim 51 language that the distribution ring is adapted to direct a second portion of the conditioning gas to an upper portion of the

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chamber. Examiner disagrees: See for example the paragraph spanning pages 12-13 of the final rejection.

“one can immediately understand how the path is capable of directing a second portion of the conditioning gas upwards. The present specification (page 31, lines 7-12) says that the ring is such that the “gas can flow through the upward-angled annular path 152...into the chamber” – Examiner could find nothing that says actually “directs” the gas – but they are the same thing. One immediately understands they are the same thing.... If gas “can flow” from point A to point B, and can be “directed” to from point A to point B. One also immediately understands that the inner/main bore of the Harding ring can direct gas upwards - it is a vertical passage. “

In other words: Examiner interprets claim 51 in light of the specification to see what Appellant intended by amending the claim to recite that ring is adapted to “direct” the gas. Examiner could find no mention of the functional language of directing the gas. As indicated in section **V Summary of the Claimed Subject Matter**, (at page 7, lines 4-8) of the instant appeal brief: p 31, lines 7-19 of the specification is the/a discussion of the ring being “adapted to direct”. All that is described is that the “gas can flow through the upward-angled annular path”. Thus the functional “to direct” when interpreted in light of the present specification merely requires that gas “can flow”.

It is argued that Harding’s furnace is clearly not necessarily adapted to direct a second portion of the conditioning gas as recited in claim 51. However there is no rationale given to support this assertion. Given an unobstructed path, gas can flow from any one location to another. Harding has such unobstructed paths.

It is argued that Examiner's proposed modification (of adding a vacuum device) is not the result of Harding's disclosure. This is no more relevant than Appellant's device

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unable to direct gas without an unclaimed gas-feeding source. Applicant has defined the present invention using broad functional language that can only be the result of unclaimed ancillary features.

As to the argument that Examiner's argument does not explain why one of ordinary skill would understand that Harding's furnace would necessarily disclose a ring adapted to create a buffer having a pressure higher than a pressure outside the drawing furnace. Examiner did not explain this because this a clear result of using a pressure source and a vacuum. Likewise Applicant's invention is incapable of creating a buffer of higher pressure – except under limited circumstances: such as connecting a pressure source to the furnace and inserting a preform of a size that is not too small.

Regarding claim 61, Appellant relies on the arguments relating to the above 35 USC 112 -2<sup>nd</sup> paragraph rejection: that the angled path be defined by structure. As indicated above, the drawings show a major portion of the path not being defined by structure. Examiner could find no explicit definition for the claimed path.

The specification must clearly set forth the definition explicitly and with reasonable clarity, deliberateness and precision. *Teleflex Inc. v. Ficosa North America Corp.*, 63 USPQ2d 1374, 1381 (fed. Cir. 2002), *Rexnord Corp. v. Laitram Corp.* 60 USPQ2d 1851, 1854 (fed. Cir. 2001) and MPEP 2111.01.

Claims limitations are given their broadest reasonable interpretation- consistent with the specification. As pointed out above, the specification discloses paths 152 which are shown to have a significant portions not delimited by structure. Thus it is reasonable interpretation that the paths need not be delimited by structure. Although appellant's interpretation may be reasonable, it is not the broadest reasonable. An

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interpretation where the “path” may be delimited and/or not delimited is broader in scope.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/John Hoffmann/

Primary Examiner, Art Unit 1791

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/Yogendra N Gupta/

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